

Danthonia



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NEWSLETTER OF THE AUSTRALIAN NETWORK FOR PLANT CONSERVATION

Native forests and woodlands on Australian farms

Suzanne M Wilson and U N Bhati
Australian Bureau of Agricultural and
Resource Economics

Trees on farms have a potential range of benefits for farmers and all the Australian community. However, while Australian farmers have been planting trees, consistent information on tree planting nationally has not been available. Similarly, there has been little reliable information on the extent and function of native forests and woodlands on farms and on farmers' intentions to keep or clear this native vegetation.

To fill these information gaps, ABARE surveyed around 2000 Australian farms on planted trees, native forests and woodlands. The survey was conducted in 1994 as a supplement to ABARE's annual Australian agricultural and grazing industries survey and Australian dairy industry survey.

Released in October 1995, the survey report focuses on the number and location of tree plantings, the intended purpose and perceived benefits of these trees, and their costs of establishment and

maintenance. Information on native forests and woodlands on farms is also included in the report.

The purpose of this note is to present a summary of key findings relating to native forests and woodlands on Australian broad-acre farms.

Extent

Around 81% and 68% of farms in the wheat-sheep and high rainfall zones respectively have some area of native forests or woodlands. It is, however, unclear whether these areas are fenced off from farmed areas.

In 1993-94, the national average area of native forests and woodlands per farm was 348 ha in the wheat-sheep zone and 163 ha in the high rainfall zone. These represent about 18% and 20% of the average farm areas operated in these two zones respectively. However, there were significant variations among states. For example, the proportion of total farm area occupied by native forests and woodlands was highest in Queensland's wheat-sheep and high rainfall zones (about 30%),

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EDITORIAL

Jeanette Mill, National Coordinator

The new year has brought some major changes at the ANPC National Office. Most of you would know that Mark Richardson has gone to Alice Springs and I have taken over as National Coordinator, making this a fully ANPC position. Leslie Lockwood has replaced Mark as the Curator of Living Collections (renamed Assistant Director - Horticulture and Collections) at the Australian National Botanic Gardens. Welcome Leslie! As an ANBG employee, Leslie will fulfil the administrative role with the ANPC which Mark previously carried out. This has meant a reorganisation of roles which will further evolve over time.

It is perhaps timely that ANPC regional groups are becoming more self-sufficient by appointing Regional Coordinators. There are now Coordinators in three regions who are all putting a great deal of time and effort into ensuring that regional group activities are taking place. I urge all members to support their Coordinators by assisting them in any way possible, and importantly, supporting the activities that the groups have planned. If you have suggestions that would make your group more relevant to your needs, please tell your Coordinator. (See the relevant section of this newsletter for a more detailed article on current regional group issues).

With our next conference less than a year and a half away, we need to think about

themes. If you have suggestions, please either give them to your Regional Coordinator or contact the National Office.

In my two and a half years with the ANPC I have enjoyed enormously working with the small National Office team and meeting the large team that makes up the ANPC's membership. I look forward to continuing and developing these working relationships in the future. There seems to be no limit to the ways in which people enthusiastically contribute to the cause of conservation of Australia's flora. It is a pleasure to learn of these initiatives and to promote them as widely as possible so that they receive the support and recognition they need from all sectors of the community.

ANPC Advisory Committee

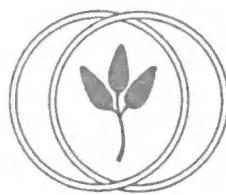
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and lowest in Victoria's high rainfall zone (about 2%).

Functions

Native forests and woodlands potentially perform many functions, but the provision of shelter and shade was the most common function listed by farmers in all States. The next most common functions were the conservation of native vegetation and wildlife, and the treatment or prevention of land degradation. Few farmers listed the main function as being the production of pulpwood, sawlogs and non-wood products for sale.

Intended clearing

Farmers were asked in the survey whether they planned to clear their native forests and woodlands in the five years following the survey (1994-95 to 1998-99). The proportion of farmers who planned such clearing varied across Australian states and agricultural zones. Less than 5% of farmers in the southern mainland states and Tasmania said they intended to clear some native forests or woodlands, compared with 27% in Queensland's wheat-sheep zone.

The proportion of farmers who planned to clear in excess of 10ha of native forests and woodlands over the 5 years was highest in Queensland and New South Wales. Specifically, the regions with the highest incidence of farmers planning to clear were in the Brigalow Belt, the Desert Uplands, the Mitchell Grass Downs, the Mulga Lands and Queensland's Channel Country, and in the central belt of northern New South Wales.

Nationally, farmers planned to clear average areas of native forests and woodlands of 380ha per farm in the pastoral zone, 33ha per farm in the wheat-sheep zone and 8ha per farm in the high rainfall zone. The State averages varied, from 696ha and 186ha per farm in Queensland's pastoral and wheat-sheep zones respectively, to nearly zero ha in South Australia, Victoria and the Northern Territory.

By comparing the average area of existing native forests and woodlands on farms with the average area that farmers planned to clear over the 5 years, it is possible to assess the intensity of planned clearing in the wheat-sheep and high rainfall zones. Accordingly, farmers in the high rainfall zone planned to clear nearly 5% of their native forests and woodlands over this period, while farmers in the wheat-sheep zone intended to clear 10% on average.

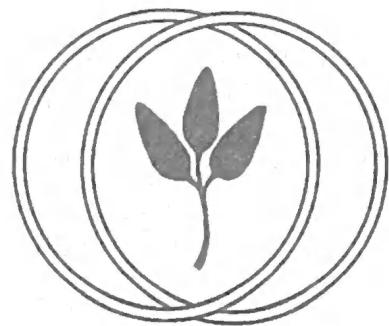
Nationally, all broadacre and dairy farmers planned to clear a total of around 3.28 million hectares of native forests and woodlands from 1994-5 to 1998-99. This is equivalent to about 656,120 ha a year.

Of the total planned area of clearing, nearly 88% was in Queensland and 9% was in New South Wales. However, since the survey was conducted, the Queensland and New South Wales State governments have proposed new guidelines and legislation on land clearing, which may influence the extent of clearing actually undertaken.

The survey report

Survey of trees on Australian farms: 1993-94 is priced at A\$25 plus a postage and handling

charge of A\$5 per total order, A\$10 for overseas clients. To order the report, write to the Publications Officer, ABARE, GPO Box 1563, Canberra 2601, Australia, or contact Janine Steele by phone (06) 272 2303; fax (06) 272 2330; or e-mail: dflamia@abare.gov.au.



Apology!

In the December 1995 issue of *Danthonia*, the end of the report by Brien Meilleur, the President of the Center for Plant Conservation in the US, got dropped off by accident. I apologise to Brien and to any readers who were confused as a result. The final sentence in full reads as follows:

"By so strongly emphasizing creative problem-solving, the 270 delegates from 40 countries - some facing constraints almost unimaginable to conservation gardens in western industrial democracies - showed me a side of plant conservation that I can only characterize as truly inspiring."

Brien Meilleur."

New ANPC National Office Staff Member

Hi, I'm the Leslie Lockwood working in the position at the Australian National Botanic Gardens vacated by Mark Richardson at the end of last year. Some of you may remember me as the person behind the Registration desk at the conference in 1991 from which the ANPC grew.

I joined the Gardens in 1980 to head the Plant Records group. In 1984 I became the leader of the newly started Development group with responsibility for coordinating all new developments (from garden beds and paths to buildings and electricity upgrades) and maintaining existing facilities.

After a six month stint in the head office of the Australian Nature Conservation Agency, where I gained a better insight into the breadth and depth of conservation programs for which the Agency is responsible, I have returned to the Gardens. I head the team that maintains and develops the living collection here, as did Mark, but my relationship with the ANPC will differ. While I am part of the National Office, I aim to bring to it the balancing, juggling, negotiating and coordinating skills I have gained in previous positions. This will ensure that we at the National Office keep ANPC as a meaningful and vibrant network that works with you, the members, to achieve our organisation's objectives.

LL

Community Biodiversity Network National Coordinator Appointed

The new National Coordinator of the Community Biodiversity Network (CBN) is Andreas Glanznig. Andreas formerly worked in the Biodiversity Unit of the Federal Environment Department, helping develop the National Biodiversity Conservation Strategy and the National Biodiversity Conservation Program, and is keen to explore opportunities for collaborative efforts between the CBN and the ANPC.

Andreas' address is:
Community Biodiversity Network,
PO Box 302,
Avalon NSW 2107.
Ph: (02) 9918 3277.
Fax: (02) 99732402.
Email: bdnet@peg.apc.org.
World Wide Web address:
<http://www.peg.apc.org/~bdnet>

New Staff Member

Sandra Griffiths, Conservationist, is now working for the CBN, to promote community awareness and involvement. She has two databases which can provide free information to ANPC members: Rare and Threatened Fauna and Flora of Queensland, and a community Plant & Wildlife monitoring system (PAWS).

To contact Sandra, write to:
28 Lizabergs Way,
Witta via Maleny Qld 4552.
Phone (074) 94 428.
Fax: (074) 94 4337.
Email: feral@peg.apc.org.

New Leadership for Greening Australia

Greening Australia ended 1995 with a new President and a new Chief Executive.

Michael Gorton was elected President, following Geoff Wells who became Immediate Past President. Michael stepped down as Chair of the Greening Australia Council, which is the peak body of non-government organisations which provides policy advice to Greening Australia, and was replaced by David Cliffe, Vice-President of the Nursery Industry Association of Australia.

Mark Thomas took over as Chief Executive in December from Winsome McCaughey, who has been appointed Chair of the National Food Authority. Mark has been General Manager of Greening Australia for the past two years and before that Marketing Manager. He spent four years with the National Tree Program, the forerunner to the Commonwealth One Billion Trees Program. He has been with Greening Australia for six years.

Michael Deeley, GA Victoria, was re-appointed Board Vice-President and Michael Willson, GA South Australia, became Treasurer.

Awards

In October 1995 Winsome McCaughey received an Outstanding Achievement Award and Geoff Wells received an Outstanding Service Award from Greening Australia.

John Haydon, a founder member and former President, and GA Tasmania State Coordinator, Don Thompson, both also received Outstanding Service Awards.

The Monaro and Southern Tablelands Remnant Lowland Native Grassland Conservation Project

Rainer Rehwinkel, Project Officer, NSW NPWS/ANCA

Project Aim

To identify, work with and assist landholders/land managers in the management of selected remnant lowland native grasslands and their component fauna and flora species, on the Monaro and Southern Tablelands of NSW, to ensure their continued conservation.

The Project

The native grassland remnants of the Monaro and Southern Tablelands of NSW are parts of a highly fragmented and modified ecosystem. The best known grassland remnants are now confined to travelling stock reserves, cemeteries, road and rail reserves, some pastoral properties and Crown Land Reserves. Native grassland remnants still exist because they have escaped such pressures as overgrazing, pasture improvement and cultivation. Some of the known grassland sites are habitats for threatened or rare species of flora (*Swainsona recta*, *Rutidosis leptorrhynchoides*, *Calotis glandulosa*, *Dodonaea procumbens* and *Discaria pubescens*) and fauna (including reptiles and invertebrates).

The Monaro grasslands are extraordinarily beautiful. Whether it is the stark beauty of the silvery *Poa* tussock grasslands glinting in the sun, with the ever-present Monaro

winds sweeping the plains and the ragged line of the Snowy Mountains hazy in the distance, or the warmer tone of the kangaroo grasslands, dotted with billy buttons, hoary sunrays and buttercups, each remnant has its subtle charms and attractions.

As well as their considerable intrinsic nature conservation values as repositories of biological diversity, the native grassland remnants are extremely important in our understanding of the use of grassland species in sustainable agriculture and for other purposes, such as recreation, education, scientific study and the potential use of component species in horticulture.

As project officer, I worked from the Queanbeyan District Office of the NSW National Parks and Wildlife Service (NPWS), with funding from the Australian Nature Conservation Agency (ANCA). The spring-summer (1995-6) project followed up on the survey of the Monaro grasslands by John Benson in 1994, on a more recent grassland survey by Alison Rowell, and Sandy Jones' survey of cemeteries.

An aim of the project was to seek the co-operation of the key landholders and managers of the grassland remnants in the Monaro region (centred on Cooma at the foot of the Snowy Mountains), in order that the best sites would be ensured continued management in ways that will preserve and enhance their conservation values. Therefore I contacted Shire engineers, Rural Land Protection Boards, cemetery management committees and private land-holders. Grasslands in the care of these groups were made known to

the managers. In some cases these managers of remnants were unaware of the value of the grasslands in their care, while in other cases awareness of the values was present but there was some uncertainty as to how best to look after these often spectacular grasslands. In most cases, when the managers became aware of these values, there was a palpable keenness to look after their sites.

Management histories of the significant grassland sites were gathered in an effort to gain some understanding of future management strategies for these sites. For example, the Rural Land Protection Board ranger at Cooma made available records of the short-term grazing permits for all the travelling stock reserves in this district. Anecdotal information was also collated.

During the course of the project other previously un-surveyed lowland grassland remnant sites were identified, not only on the Monaro but also in the Sutton-Bungendore-Braidwood area, to the north and east of Canberra, where little effort has previously been expended on doing grassland surveys.

Another main aim of the project was to raise the profile of native grasslands on the Monaro and the Southern Tablelands. This was effected by holding field days at selected sites. These days were enthusiastically attended by local farmers, managers, rangers, shire engineers and gardening staff, cemetery managers and Landcare members. To a large degree, the native grasslands issue became a big agenda on the Monaro with the introduction of the State Environ-

mental Planning Policy on vegetation clearing (SEPP 46), and the subsequent removal of the Schedule 2 grasslands (which included those on the Monaro) from the SEPP at the end of 1995. This had a major effect in that everyone with any interest in grasslands wanted to know so much more about them.

A comprehensive collection of plant specimens was assembled during the project, and slide shots of grassland scenes and close-ups of the flora were taken. The collection of specimens and the slides were recently shown at Numeralla Landcare Group's AGM as a potent educational resource. The feedback that I received from this event suggests that this presentation will be well received elsewhere on the Monaro and Southern Tablelands.

The project has been judged a success, and while so much still needs to be done, major aims have been fulfilled. Some significant gains have been made in the conservation of native grassland remnants, including newly recorded ones, both on the Monaro and elsewhere. To give an example, the Snowy River Shire has initiated a new mowing regime at some of their cemeteries which will ensure that some of the significant forbs [herbaceous plants excluding grasses. Ed.] found there are allowed to flower and set seeds.

Major follow-ons from this project will hopefully be to formalise some conservation actions eg Voluntary Conservation Agreements or Memoranda of Understanding for the best sites, to be negotiat-

ed between the NSW NPWS and the grassland managers; to continue to work with the people on the Monaro on a strategy for the conservation of grasslands; and finally to assist a newly appointed grasslands project officer on the Monaro (a new World Wide Fund for Nature project), whose job it will be to formulate management actions for selected sites.

This project would not have been possible without the help of so many people that it would be unfair to single out individuals for special thanks. However, I wish to thank in particular my steering committee, my colleagues at NSW NPWS and numerous people on the Monaro who assisted in so many ways. For more information about the project, please phone me, Rainer Rehwinkel, NSW NPWS, on (06) 298 9709.

For the benefit of others who may want to conduct a similar project, Rainer included the following outline of the project's strategies (Editor):

Project Strategies

1. Liaise with key managers/landholders to ensure the continuation of the conservation of the significant grassland sites and their component fauna and flora species, as identified in the Benson, Jones and Rowell surveys;
2. Provide information to stakeholders in order to raise awareness of the importance of grasslands, principally for nature conservation, and also for their role in sustainable agriculture, amenity horticulture, ecotourism, research and education;
3. Understand the perceptions of land owners/managers of the Monaro and Southern Tablelands towards the management and protection of lowland temperate grasslands;
4. Develop enduring networks of land holders and managers, conservation groups, NPWS and other grasslands stakeholders, for the continued conservation of lowland temperate grasslands and their component species;
5. Gather information on distribution and location of further significant remnant grassland sites, both within the Monaro and also in the wider Southern Tablelands area;
6. Prepare a project report to widely disseminate the main findings of the project; and
7. Provide data for the preparation of GIS maps and the compilation of grassland information for a database.



Rutidosis leptorrhynchoides

Australian Bush Heritage Fund

This Fund was begun by prominent environmentalist Bob Brown, who has already purchased two blocks of native forest in the Drys Bluff part of the Great Western Tiers area of Tasmania. It is administered by the Tasmanian Conservation Trust, and was set up as a non-profit body to buy private land seen as having high conservation value, and hold it in trust.

The fund is modelled on two very successful organisations: Nature Conservancy in the USA, and the Woodlands Trust in the UK.

Patrons of the Trust are Phillip Adams, Jenny Kee, Jo Valentine and John Williamson.

You can contribute by making a donation, which is tax deductible if you make and send the payment to the Tasmanian Conservation Trust. Contributions can be one-off or on a regular basis, and you can organise bequests if you wish.

Both companies & individual contributors will receive regular updates through the Australian Bush Heritage Fund Newsletter, and will also have special visiting rights to land purchased by the Fund.

Copies of their colour brochure with the donation form are available from:

Australian Bush Heritage Fund,
Tasmanian Conservation Trust
102 Bathurst Street
Hobart 7000.
Phone: (002) 34 3552.
Fax (002) 31 2491.

Oxygen Farm

The Oxygen Farm Association, operating out of the village of Elands in central NSW, has taken active steps to work against environmental degradation. It is an incorporated organisation committed to the acquisition and preservation in perpetuity of areas of environmental significance. The Association has an Information Gazebo next to the Wild Turkey Cafe in Elands which has views of the first Oxygen Farm, with its wet sclerophyll forests and warm temperate rainforest, and details of local walks. (The property is now a flora and fauna reserve).

Individuals and groups around Australia can ask for assistance to preserve significant areas by establishing them as Oxygen Farms which can then be managed by the local community.

Becoming a member is simple: fill in a membership form and pay the membership (\$50) and annual subscription fees (\$25 from July 1st each year). You can then actively participate in the running of the Association and can stand for election to the Committee.

The Association has published a colour brochure giving the history of the purchase of the first Oxygen Farm and details of aims, objectives, rules, standing orders, etc.

The brochure, membership forms and further information can be obtained by writing to:

The Oxygen Farm Association Inc.,
Post Office,
Elands, NSW 2429.

Publications of Interest

Centres of Plant Diversity: A Guide and Strategy for Their Conservation. Vol II Asia, Australasia and the Pacific. SD Davis, VH Heywood and AC Hamilton, eds. 1995. World Wide Fund for Nature and the International Union for the Conservation of Nature. This contains a section called "Regional Overview: Australia and New Zealand", written by Robert Boden (Australia) and David Given (New Zealand).

Conservation Atlas of Plant Communities in Australia. Specht RL, Specht A, Whelan MB and Hegarty EE. 1995. Lismore: Centre for Coastal Management in association with Southern Cross Press. 921 communities are described and individually mapped to show their structure and floristics, distribution and conservation status in the current National Reserve System. For copies (\$95.00 each & \$10 postage & handling within Australia), the contact person is Dr Alison Specht, Centre for Coastal Management, PO Box 5125, East Lismore, NSW 2480 Australia. Fax (066) 212 669; International 61 66 212 669.

Recovery plan guidelines for endangered & vulnerable species & endangered ecological communities. 1995. Canberra: Australian Nature Conservation Agency, GPO Box 636, Canberra ACT 2601.

Conservation Outside Nature Reserves Conference

Deborah Edwards

The Conference, held from the 5th to 8th February 1996, was hosted by the Centre for Conservation Biology at the University of Queensland, Brisbane. Over 450 people attended. The sponsors were the Australian Nature Conservation Agency (ANCA), Queensland Department of Environment and Heritage (QDEH), NSW National Parks and Wildlife Service (NPWS), The Institute of Foresters of Australia Inc, the National Association of Forest Industries and the Queensland Dept of Primary Industries.

I feel that ten years ago some of these might not have conferred together. It seems that general awareness and a desire to act have certainly increased. I find this very encouraging at those times when all I can see is what still needs to be done and I'm feeling overwhelmed by it all.

The aim of the Conference was to examine nature conservation in landscapes which are managed primarily for other uses, and which therefore are outside the traditional reserve system. The Centre for Conservation Biology has as one of its aims the promotion and encouragement of informed public debate about issues and problems in conservation.

In his welcome, Craig Moritz, Director of the Centre, said that we need to find social and economic ways to make conservation outside re-

serves work. As the organisers pointed out, although we must continue to establish a system of comprehensive reserves to protect our biological diversity, we must look at the management of the rest of our landscapes because it is here that this diversity will ultimately be conserved. The reserves will cover only a minority of the Australian landmass.

The sessions focused on a wide range of topics including: the viability of disturbed ecosystems; producer and community initiatives; rehabilitation of degraded lands; particular ecosystems such as forests, rangelands and wetlands; structures and agreements for conservation; and financial opportunities and incentives for conservation.

Key speakers at the opening plenary session included Syd Shea, Conservation and Land Management (CALM) WA, who spoke about fully integrating production and conservation; Dr Peter Bridgewater, CEO of ANCA, on endangered species; and Dr Michael Young, from the CSIRO Division of Wildlife & Ecology, who talked about incentives for off-reserve conservation.

It is impossible to cover the number of talks I attended in a small space, so I'll try to capture overall impressions, highlights and ANPC's presence.

Overall Impressions

On the one hand, I heard about the damage done to our land, that it's continuing, and that there's still a lot of conflict between different viewpoints. There's a lot to be learned about conflict resolution, collaborative action, compassion, what's still undiscovered in those precious ecosystems, and

how we can mend and care for what we still have. On the other, these things are happening, far more than before: let's be encouraged by this.

I heard these common points. We must work together, improve our interacting skills, have local involvement, improve two-way transfer of information between government and "on-ground" people, and develop integrated management structures.

ANPC

ANPC's display attracted much interest. We answered queries, gave information and watched brochures and 50 copies of *Danthonia* go like hot cakes! A number of people have joined the Network as a result. I approached some people for articles for *Danthonia*, and I'll be following up these contacts and others. Several members gave talks about their work, including Andrew Batty from Kings Park and Botanic Garden, Perth; Louise Gilfedder from the Tasmanian Dept of Environment & Land Management; and John Benson from the Royal Botanic Gardens, Sydney. Some other members also attended. John Sawyer from the Dept. of Conservation, Wellington, NZ, gave us a plug by saying he based his endangered species database on that of the ANPC.

Highlights

Richard Scanlan, a grazier from the Lockyer Valley in Queensland, impressed me as embodying the change in community attitudes toward conservation in the last 20 years. He bought 400 acres of "virgin scrub" in 1950 & felled and burned all but 70 acres which was in rocky, rough country. His father had felled timber,

and Richard was expected to do the same to "Prove yourself a real man", as he put it. There was no thought of conservation.

Later he noticed the effects: choked waterways, weeds, landslips, soil erosion, and loss of soil richness leading to a drop in land capacity. He joined the Lockyer Watershed Management Association, and began to realise the value of his remaining 70 acres. In 1992, after the Qld Nature Conservation Act was passed, he applied to have it declared a Nature Refuge. Officers from the Dept. of Environment & Heritage worked out an agreement with him having certain requirements to satisfy all, and in 1994 the refuge was declared.

Richard's work epitomised that of many other landholders who spoke at the conference. They showed good awareness and knowledge, and are very active with tree planting and other schemes on properties over a range of environments. This was heartening to see.

Some speakers delivered their messages about community participation with much humour. They included Peter Pavlov, who is a Conservation Officer with the Douglas Shire Council, Qld, and who has a lot of trouble with local pig dog owners, even receiving death threats! Cassowaries are often killed by these dogs, and Peter is trying to save them in the face of a whole range of attitudes and problems. One necessary step is to prevent habitat loss for the cassowary: the lowland tropical rainforest is fast disappearing. Peter developed a management plan and monitoring program, and the local Cassowary Care Group is looking at rehabilitating degraded lands, and growing local

plants. This is an example of the interdependence of plants and animals, another theme which I heard at the conference (if not often explicitly stated).

Alison Doley told about some rare plants found on her WA property. These include a *Halosarcia*, and also *Ptilotus caespitulosus*. I have asked both Alison and Diana Papenfus, the botanist who worked there, to write articles.

Stuart Hill, from the School of Social Ecology, University of Western Sydney, Hawkesbury, was very challenging. He feels that we are not yet serious about biodiversity but that we are in deep trouble. We have degenerating ecosystems, social systems, and economies.

Stuart asks why we try to save endangered species and not maintain our healthy habitats? He says we emphasise rareness - we love it as it has high emotional and heroic elements. This is crisis management, simplification, looking at symptoms not causes. Healthy is boring. We neglect maintenance activities. (We must reward farmers for maintenance activities). Stuart believes we fear nature and also see it as an unlimited free resource, so we want to control it and see science and technology as the answers. He says our current approaches, about efficiency, simplification and substitution, are "shallow". Most try to make the present system work, rather than trying to find one which will work in the future.

Stuart feels we need an eco-psychological approach, to work from the inside out, and become proactive. We do have the means to recover, to

achieve ecologically sustainable development, empowerment, awareness, changed attitudes. A "deep" approach would involve redesign, to facilitate maintenance, health and evolution of self and system, and prevention of problems. It would have us "at home" in nature, collaborating with other species, accepting natural limits, comfortable with complexity, being conservers, spontaneous, supporting equity, looking at the long term, and replacing products with services.

He said that sustainability needs to equal system maintenance, with interventions considered guilty till proven innocent. We need a new understanding of co-evolutionary change, and to connect values, vision, awareness and empowerment to lead to responsible appropriate action.

Overall Recommendations

"Recognising that a national system of representative reserves is an essential component of biodiversity protection; BUT also, that such reserves will, at best cover a minority of the land area, can never be representative of the entire biota, and will not be viable in the long-term if located within a hostile environment; this conference COMMENDS the bipartisan political support for the funding of major programs relating to off-reserve conservation, and recommends that:

1. conservation of biodiversity be given greater prominence within programs for Ecologically Sustainable Management;

2. the operation of these programs be reviewed to ensure that maximum funds and benefits flow to local commu-

nities and that these communities own the process;

3. social and economic incentives be used to reward land-holders and industries that achieve effective biodiversity conservation; and

4. information on the performance of these programs in relation to biodiversity be publicly owned and available.

5. any recommendations associated with Ecologically Sustainable Management not contravene accepted existing agreements and processes under which land management operates unless re-negotiated with the stakeholders."

The conference proceedings will include the full recommendations, and will also cover the scope of the forum discussions.

I found the Conference excellent for the amount of interesting information I gained, the sometimes sharp forum and informal discussions which occurred, and for networking and publicity for the ANPC.



ANCA's 21st Birthday!

Deborah Edwards, Editor.

The Australian Nature Conservation Agency (ANCA) began life as the Australian National Parks and Wildlife Service in 1975, with four staff and a small budget. It is now a complex organisation responsible for Commonwealth endangered species protection laws, the Australian National Botanic Gardens (ANBG), the Australian Network for Plant Conservation, the Australian Biological Resources Study, community programs such as Save the Bush, Commonwealth national parks and other reserves, and running the Centre for Plant Biodiversity Research and the Australian National Herbarium with CSIRO.

Wednesday 13th March saw birthday celebrations at the Australian National Botanic Gardens. Guests planted a "21-gum salute" and a number of employees received awards for long service. Some staff have been at the ANBG and ANCA for over 20 years. Speakers included Dr Peter Bridgewater, head of ANCA, and Senator Ian Campbell, the Parliamentary Secretary for the new Minister for the Environment, Senator Robert Hill, who was unable to be present.

A cake bearing the ANCA green frog symbol was cut, and everyone moved to the morning tea of lamingtons, damper, Anzac biscuits, cake and drinks including champagne. After socializing we began to move away to our workplaces, to keep on "Conserving Australia for all Australians."

New Charter for Comment

Interim Australian Natural Heritage Charter for the conservation of places of natural heritage significance: Australian Natural Heritage Charter Project. Summary of Stage 1 and Interim Charter. January 1996.

Steering Committee:

Australian Committee of the International Union for the Conservation of Nature; Australian Heritage Commission; Australian Local Government Association; and Environment Institute of Australia.

Consultant:

Lorraine Cairnes, Fathom Consulting.

The Project:

In Stage 1, the major strategic issues relating to natural heritage conservation practice were reviewed in consultation with relevant people. From these discussions came the Interim Charter, which aims to provide "principles and procedures defining a minimum standard of assessment, protection and management of natural heritage places..."

For copies and further information, contact the Australian Heritage Commission, (06) 217 2111 or Fax (06) 217 2395.

When you've read the Charter, send in your views, and attend a workshop some time this year to discuss it. You could also trial the Charter and let the Consultant know the results of your experience.

Send your comments to: Australian Natural Heritage Charter Project, c/- Fathom Consulting, PO Box 88, Castlecrag NSW 2608 Australia.

Propagation Success With Endangered Species: *Hakea pulvinifera*

Joe McAuliffe, Australian National Botanic Gardens.

Distribution: New South Wales, region 50.

Conservation status: 2ECI
2 = has a range of less than 100km

E = Classified endangered

C = population reserved

I = inadequately reserved.

Hakea pulvinifera is a spreading shrub to 2.2m tall, flowering between October and November. It is an endangered species found only in a small area near the Keepit Dam 30km north east of Gunnedah, where it was discovered in 1950. In 1984 it was presumed extinct due to people not taking enough care when building a car park, and a fire going through the area. It was rediscovered by a NPWS ranger from the Keepit State Recreation Area in 1988.

In 1991 there were 57 plants counted on a steep, rocky west-facing hillside, growing with *Callitris glaucophylla*, *Dodonea viscosa* and *Cymbopogon obtectus*. The population is reserved but inadequately so. Its extent is very restricted, covering only some 300 square m, and it is under threat from rabbits and kangaroos grazing on new growth. This severely affects the plants' ability to reproduce naturally.

Over the last five years the Australian National Botanic Gardens (ANBG) has been conducting trials into the successful propagation of the

species. The seed and fruit of *Hakea pulvinifera* have never been seen. It is believed that the species fails to produce pollen and so the plants are believed to be sterile. The only known form of reproduction in the wild is by root suckering.

This method has not been an option for horticulturists at the ANBG due to lack of available material and the obvious conservation issues involved in digging up plants that are already low in number. The best way to propagate the plants without causing excessive damage to the population has been to take cuttings and bring them back to Canberra where they have been processed at the ANBG. The first collections in September 1988 and 1990 were unsuccessful: 43 cuttings with a 0% strike rate. The next field trip in May of 1991 resulted in 1 successful strike from 74 cuttings taken. The successful cutting was grown on to provide material for further trialling.

The ANBG attempted the propagation of *Hakea pulvinifera* using various strengths and combinations of the plant hormones Indole-Butyric Acid (IBA) and Naphthalene Acetic Acid (NAA) with an ethanol base without success in the months of May, February, September and March. Each month involved the use of different plant material eg softwood in September, hardwood in February and semi-hardwood in May. All the cuttings suffered burning or blackening from the 70% ethanol ingredient used in the plant hormone solution. It wasn't until May 1994 that the use of plant hormones without an ethanol base was attempted on *Hakea pulvinifera*.

Due to the lack of available plant material very few cuttings could be taken: 16 cuttings total, 4 cuttings per plant hormone. The trial involved the use of IBA in 2000 and 4000mg/l strengths using 70% ethanol and a gel-based hormone. The cuttings looked good for some 3 or 4 weeks before the ethanol hormone treatments blackened and died. Shortly afterwards the 2000mg/l gel treatment also died.

Four months after the processing of the cuttings each of the 4000mg/l IBA gel treatment cuttings had produced roots. Particular attention was then placed on the propagation of *Hakea pulvinifera* either in the month of May or whenever the plant had semi-hardwood material available. Propagation has been very successful since the initial breakthrough in May 1994 where semi-hardwood material was used in conjunction with 4000mg/l of gel-based IBA.

The continued propagation and cultivation of this plant at the ANBG will certainly play a major role in preventing *Hakea pulvinifera* from becoming extinct.



A Conservation Project

Glen Fensom, Mount Annan Botanic Garden

Microstrobos fitzgeraldii, the Dwarf Mountain Pine

The trial of this plant as an *ex situ* project began at Mount Annan Botanic Garden in the early 1990s. The idea followed from work carried out on *Pultenaea parviflora* by the Horticultural Research section in 1989. *Microstrobos fitzgeraldii* is a suitable subject for *ex situ* conservation due to its rarity and its suitability for cultivation.

Habitat

Microstrobos fitzgeraldii is a low-growing, often pendulous conifer of the family Podocarpaceae. It has a ROTAP listing of 2VCit (Briggs and Leigh, 1988). However, Jones (1993) recommends that it be reclassified 2ECi due to the nature of the threats facing the species. It is confined to a small number of waterfalls on the southern side of the main urban area of the upper Blue Mountains of NSW. Smith (1980) had listed six sites as part of his survey work, then Jones (1993) found a small number of additional sites in the same area. Most of the populations are restricted to sheltered south facing escarpment recesses and are adjacent to waterfalls. No plants have been found outside this habitat type and many areas considered capable of supporting this species have proven to be

devoid of it (Jones pers. com.). The plants are generally found in horizontal bands at the sides of waterfalls, not necessarily within the spray zone, and are often rooted shallowly amongst sandstone fragments. They are generally subjected to moderately low light levels.

Reasons for Ex Situ Conservation

There are a number of reasons for developing *ex situ* populations for this species. A primary objective is to provide insurance against threats to wild populations. Some of these are:

1. Weed encroachment at Katoomba Falls;
2. Urban development above most of the sites;
3. The expansion of rainforest communities at many of the sites (Jones pers. com.), and
4. The possibilities of landslides, which do occur along this type of sandstone cliff face and could lead to the loss of whole populations.

Furthermore, *M. fitzgeraldii* is suitable for *ex situ* conservation for the following reasons:

- Wyn Jones (NPWS) has labelled most of the individuals in the wild. This makes tracking clones back to their parent plant more accurate than with our normal methods (recording latitudes and longitudes and site descriptions) alone. In addition the work done *in situ* by NPWS offers the potential to build up a comprehensive database on the ecology and requirements of the species.

- Low rates of change with-

in the population over time may mean that the populations would differ very little after being separated for a long period of time.

- Individuals are comparatively slow-growing and long-lived and have a small adult size, which makes them suited to low cost, low maintenance cultivation.

Collection Strategy

Collections were first made from those populations considered at greatest risk. There were two populations in this category: Leura Falls, as this site appeared to be under threat from pollution, and Bonnie Doon Falls, as the land was not at that stage incorporated into any protected reserves.

At the time of project commencement in 1991 the NPWS had only recently started work on the ecology of the plant, and very little was known about its population genetics. It was decided that the best approach to establishing an *ex situ* population at Mount Annan was to make a thorough collection of most of the populations. The *Microstrobos fitzgeraldii* and *Pultenaea parviflora* projects were sampled to ensure that the full genetic range of the populations was obtained. This is as stated in the collection guidelines which are detailed in the Conservation Policy of the Royal Botanic Gardens, Sydney: "Plants should be sampled in a way most likely to obtain an effective representation of the range of genotypes." Throughout the sampling procedure, protecting the viability of the wild plants was paramount. Collections were made in such a way as to avoid damaging or

disturbing the existing plants or their habitat.

Plants seemed to naturally occur in differentiated horizontal strata along the vertical face of the waterfall, and there was a tendency for individual plants to slip and re-establish on lower bands. It seemed reasonable to collect from individuals on the extreme edge of each band (the ones at that strata most likely to be genetically different). If the bands contained a large number of individuals then extra collections were made. All of the major horizontal bands from the top of the falls to the bottom were sampled in this way. Exceptions to this rigid sampling technique were made to collect plants which were phenotypically distinct. Such plants are desirable in that they may represent genetic variation from what could be a reasonably homogeneous community. Hopefully future studies will reveal our methods to be rigorous enough to encompass the diversity of the populations.

Results

By late 1994 a representative sample of six populations was successfully established at Mount Annan Botanic Garden. The populations show similar characteristics of homogeneity to those found in *Lagarostrobos franklinii* (Shapcott, 1991). If the wild populations are found to have a low level of variation then the representative samples at Mount Annan may effectively provide as viable a population as those do. If so they could be used as a source of material for translocation (Matthes et al, 1996, in prep) if this becomes necessary.

Currently at Mount Annan we have clones in cultivation from the six wild populations. Replicates have been distributed to Mount Tomah Botanic Gardens, with some individuals sent to the Conifer Conservation project at the Edinburgh Botanic Gardens.

Acknowledgements

I would like to thank the following people: Wyn Jones, Senior Naturalist, NPWS, and Cathy Offord, Horticultural Research Officer, Mount Annan, for their guidance and advice; Jodie Cornford, Warren Martin, Michael Taylor and Dave Wilson for giving up their time to help locate or collect from these populations.

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Briggs JD & Leigh JH. 1988. **Rare or Threatened Australian Plants.** Special Publication (14) Australian National Parks and Wildlife Service. Canberra, Australia.

Jones W. 1993. **The biology and management of Dwarf Mountain Pine (*Microstrobos fitzgeraldii*) in the Blue Mountains, New South Wales.** NSW National Parks and Wildlife Service.

Atkins K, Benson J, Butler G, Dixon K, Gilfedder L, Jusaitis M, Matthes M and Rossetto, M. March 1996 (in prep). **Draft Guidelines for the Translocation of Threatened Plants in Australia.** Australian Network for Plant Conservation Translocation Working Group. Canberra, Australia.

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Shapcott A. 1991a. **Studies in the Population Biology and Genetic Variation of Huon Pine (*Lagarostrobos franklinii*) in Tasmania.**

NRCP Technical Report No 4. National Rainforest Conservation Program and Dept of Parks, Wildlife and Heritage, Hobart, and Dept of the Arts, Sport, the Environment and Territories, Canberra.

Smith, J. 1980. **The distribution and conservation status of the rare conifer *Microstrobos fitzgeraldii*.** *Cunninghamia* Vol 1 (1) Royal Botanic Gardens, Sydney.



New Book

The Impact of Fire Regimes on Native Forests in Eastern New South Wales. 1996. Gill M and Williams J. Hurstville: New South Wales National Parks and Wildlife Service.

This is the first in a series of Forest Issue Reports being produced by the NSW NPWS on forest assessment, research and management issues. The authors are highly respected fire ecologists from CSIRO.

It is available from the NPWS Head Office Information Centre, Po Box 1967, Hurstville NSW 2220, and costs \$19.95 plus \$6 postage.

Changing the World

Never doubt
that a small group
of thoughtful,
committed citizens
can
change the world;
indeed,
it's the only thing
that ever has.

Margaret Mead.

Call for Information

The Queensland Department of Environment and Heritage is calling for information for the first comprehensive Queensland State of the Environment Report. One major chapter will look at terrestrial, inland water and marine biodiversity, and the Department wants information and suggestions from as many researchers in these fields as possible.

If you are able to assist, please send your name, contact address, field of interest and a description of possible data to:

Dr Felicity Coffey, Principal Environmental Officer, State of the Environment Unit, Division of Environment, Dept of Environment and Heritage, PO Box 155, Brisbane Albert St Qld 4002. Phone: (07) 3225 2758; fax: (07) 3227 8455.

Help Needed

The ANPC National Office would love someone out there who has time and would be interested in volunteering to compile a cumulative index for *Danthonia*!

At present we have brief separate ones for each volume, but now that we are growing it would be as handy for us as for our members to have a full index.

So if you'd like to do this, let us know. We can send out *Danthonias* if you don't have all of them, so you don't need to live in Canberra.

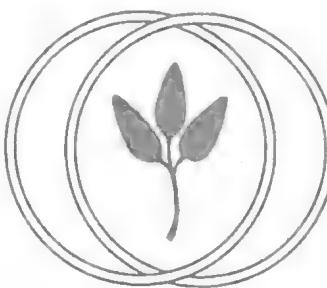
Contact Jeanette on (06) 250 9509, or Deborah on (06) 250 9523; fax (06) 250 9599, or on Email at anpc@anbg.gov.au.

Australian Biological Resources Study. A booklet on the ABRS: its role, participatory program, publications and electronic databases. Available from the Information Officer, Australian Nature Conservation Agency, GPO Box 636, Canberra ACT 2601.

New South Wales State of the Environment 1995. 1995. Sydney: NSW Environment Protection Authority. \$65 from the NSW EPA, PO Box 1135, Chatswood NSW 2057.

Recovery plan for *Owenia cependora* F. Muell. 1995. AL McKinley et al. The Channon, NSW: Landmark Ecological Services.

Pacific Conservation Biology. New quarterly journal. Craig Moritz, ed. Chipping Norton, NSW: Surrey Beatty & Sons.



More Books

Greening Australia Together 1995-6: A National Review of Greening Australia Activities. 1996. Canberra: Greening Australia.

Looking after our land: a future for Australia's biological diversity. S.R. Morton et al 1996. Canberra: CSIRO Australia.

Flora Rescue Plan: Midlands Highway Realignments Replanting

From a report by Susan M Wells,
Plant Records Officer,
Royal Tasmanian Botanical
Gardens, Hobart

Threatened Plants: *Calocephalus lacteus*, *Carex tasmanica*, *Dianella longifolia* var. *longifolia*, *Velleia paradoxa*, *Vittadinia gracilis* and *Vittadinia muelleri*.

Populations of the above plants were threatened by Department of Roads and Transport (DRT) roadworks. A rescue operation was carried out on 27 July 1993 by the Royal Tasmanian Botanical Gardens (RTBG) at the request of the DRT. One community of plants with conservation significance between Tunbridge and Ross, and three communities between Campbell Town and Conara, were identified as being at risk from roadworks being planned for these sections.

Of the plants in the first community, *Calocephalus lacteus* and *Dianella longifolia* var. *longifolia* occur only sporadically in Tasmania and are reserved only in the Tunbridge Nature Reserve. In the second area, *Velleia paradoxa* and *Vittadinia gracilis* are recorded as vulnerable, confined to only a few sites in Tasmania, with the former plant being unreserved within Tasmania and the second only at Tunbridge.

Carex tasmanica and *Vittadinia muelleri* in the same area occur sporadically only in Tasmania, and again the former is unreserved and the latter reserved only at Tunbridge. The "rescued" plants were taken back to the RTBG Nursery for propagation and care.

Propagation

Most plant material was collected as clumps and subsequently divided into 5, 7 and 10 inch pots, using RTBG native potting mix. *Vittadinia gracilis* was further propagated from seed. Larger plants (*Dianella longifolia* var. *longifolia*) were further divided in spring 1994 and also at the time of replanting. Potted up plants were stored in the open Nursery area until replanting time.

Replanting

The plants propagated at the RTBG were replanted on sections of the completed roadside on 11th October 1995.

Site 1: *Dianella longifolia* var. *longifolia* and *Calocephalus lacteus* were planted in three major groupings. All three situations were in slight hollows of an exposed, open roadside site adjacent to pasture land. The soil was undisturbed good sandy loam of mudstone origin, moist and well-drained. The plants were well watered. The weather was sunny with a maximum temperature of 17 degrees C.

Site 2: *Velleia paradoxa* and *Carex tasmanica* were planted into undisturbed good moist chocolate loam of basaltic origin, at the lowest point between two small hills. The site was exposed and open, and

approximately 1m below road level, and plants were planted between tussocks of *Poa* sp., giving the new plants some protection.

Site 3: *Vittadinia gracilis* and *V. muelleri* were planted in one grouping where there were small naturally occurring seedlings of *V. muelleri*. Both were also planted in three other groupings. All were planted into good moist chocolate loam of basaltic origin, containing stones. The site was open and exposed on a very slight slope facing NNW. Surrounding roadside vegetation of low grassland consisted of tussocks of *Poa*, *Asperula*, *Plantago* sp. and *P. varia*, *Taraxacum officinale*, *Holcus* sp., *Geranium* and *Erodium* sp., *Dichondra repens*, *Wurmbea dioica*, etc. The plants were well watered. The weather remained sunny with a maximum of 17 degrees C.

Monitoring

At this stage there are no plans for monitoring the replanting of all three sites other than chance visits while passing. Mrs Philippa Baird, who lives nearby, stopped by and expressed an interest in the project, and will be sent a copy of this report.



Illustration: Andrew Smith,
Royal Tasmanian Botanical
Gardens.

Forum

Policies & Strategies for Protection & Management of Rare & Endangered Plant Species

3rd May 1996: This forum will be conducted by the Blue Mountains Group of the Society for Growing Australian Plants, at the Blaxland Community Centre, at 8pm. A panel of experts will discuss relevant issues, and answer questions from the floor, with the guidance of an independent chairperson. Contact the Program Officer, SGAP Blue Mountains (047) 39 4392.

Conferences

Teaching for the 21st Century: Botanic Garden Education for a New Millennium

7-11 September 1996: New York, New York State, USA. For information on content, costs, etc, please contact: Lucy Jones, Brooklyn Botanic Garden, 1000 Washington Ave, Brooklyn, NY. 11225-1099. USA.

World Heritage Tropical Forests: Science for Better Management

2-6 September 1996: Cairns, North Queensland, Australia. A conservation management conference. Contact: The Conference Secretariat, phone (07) 8369 0477; fax (07) 8369 1512.

From Sand to Sandstone

22-26th September 1996: Rockhampton Grammar School. Society for Growing Australian Plants Qld Region Conference. Daily field trips (including Blackdown Tableland) and talks. There will be a fully catered post-conference tour to Blackdown Tableland if there is sufficient interest.

The brochure asks people to express interest by 31st March to: SGAP, PO Box 716, Rockhampton Qld 4700, so the organisers can finalise costs.

Exhibitions

ANPC at Science Festival

20 - 23rd April 1996: The ANPC will have a display at the Australian National Botanic Gardens, Canberra, for the Australian Science Festival. This gives you a chance to talk to people from the Canberra Region and other areas about the ANPC. If any members can spare some time - such as a few hours or a day - to staff the display, please contact the National Office.

'It's a Rare Thing Too' by Helen Leitch

April 5 to May 26 1996: On display at the Australian National Botanic Gardens in the Visitors Information Centre. The exhibition comes from the Botanic Gardens of Adelaide, and is touring Australia.

Helen Leitch combines her sense of humour, botanical knowledge and skill with her watercolours in these paintings of over 60 threatened Australian plants combined in whimsical scenes with animals. She says "I try to get people's attention, to provoke their imagination and to open their minds to a world which we can and need to consider more responsibly."

This exhibition will also be on display at Framed - the Darwin Gallery, Darwin from 21st June -12 July; The Residency, Alice Springs, 21 July - 25 August; Downs Gallery, Toowoomba, 30 August - 15 September; Moree Plains Gallery, Moree, 20 September - 17 October; Gold Coast City Art Gallery, Surfers Paradise, 25 October - 1 December; Customs House, Brisbane; Royal Botanic Gardens, Hobart; Queen Victoria Museum, Launceston; Perth Galleries Ltd, Perth; Albury Regional Arts Centre, Albury; Westpac Gallery, Melbourne; Elizabeth Bay House, Sydney.

The Contact Person for the rest of the dates and other information is:

(Mrs) Chris Steele-Scott,
Marketing Officer and
Gallery Coordinator,
The Botanic Gardens of
Adelaide,
Phone: (08) 228 2345;
Fax: (08) 223 1809.

Guide for ANPC Regional Groups

Jeanette Mill

Delegates at the "Cultivating Conservation" Conference in 1993 passed a resolution that the ANPC should encourage its members to establish local, regional, state and territory networking mechanisms and structures.

At the ANPC 2nd National Meeting in 1995, several resolutions were passed relating to ANPC Regional Groups. The meeting recommended:

- That the development of the ANPC Regional Groups be continued. The major roles for the groups were identified as:
 - providing an effective conduit for information exchange between members
 - promoting the ANPC and its activities
 - That each Regional Group appoint a coordinator
 - That Regional Groups should collate information on local courses, seminars etc relevant to plant conservation, for dissemination through *Danthonia*.

The following points have been designed subsequent to the 2nd National Meeting as a guide for Regional Coordinators, the Regional Groups and the ANPC National Office. It is not intended to be prescriptive, and is presented here to prompt discussion and feedback from members. Please direct any comments to me at the National Office or to your Regional Coordinator.

Contacts for the Regional Coordinators will appear under the relevant region heading in each issue of *Danthonia*. Likewise, if you are interested in being a Regional Coordinator (there are still some vacancies but positions are filling fast) whether a group is currently active in your region or not, or if you would like to start a group or have an idea for an activity, get in touch.

Role of an ANPC Regional Coordinator

- Act as liaison between the region and the National Office.
- Ensure that meeting or activity organisation is undertaken by the relevant people, as per the calendar for the region.
- Assist with preparation and postage of notices of activities if required.
- Ensure that a report is prepared after each meeting/activity, and a copy is forwarded to the National Office.
- Act as a liaison person for follow-up of results of meetings/activities - "where do we go from here?" eg promotion and assistance with work of organisations who may have addressed meetings.
- Along with region members, publicise activities to organisations and individuals in the region who are not members of ANPC.
- Encourage members to send to the National Office information about relevant publications, upcoming courses, seminars etc for dissemination through *Danthonia*. Reports about courses etc attended should also be encouraged.

This could be made a regular agenda item at meetings.

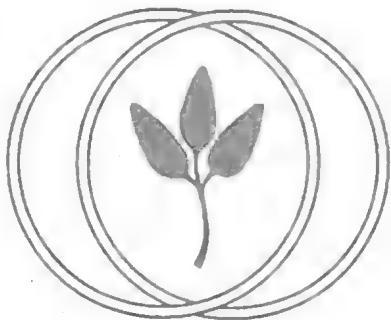
- Make information about the Network available at activities.

Role of the ANPC National Office

- Assist in the establishment of ANPC Regional Groups according to local requirements.
- Oversee the preparation of annual calendars of events for Regional Groups.
- Report on the activities of Regional Groups through *Danthonia*.
- Provide materials to the Regional Groups for promotional purposes.
- Provide Regional Coordinators with free membership for the year.
- Provide Regional Coordinators with orientation about the ANPC, and also the roles of Regional Groups and Coordinators.
- Elect a Coordinator.
- Host and/or organise meetings, field trips etc for members and others to learn of each other's activities.
- Assist Regional Coordinator with promoting meetings and other activities through member and other organisations, newsletters etc. Promote regional activities to organisations in the local area.
- Write meeting reports, organise catering, etc.
- Feed information about upcoming courses, conferences etc directly to the National Office as soon as it's available, for inclusion in *Danthonia*. Also take this information to regional activities.
- Send reports to the National Office about courses,

seminars, conferences, etc attended.

- Inform the National Office of relevant publications, unpublished reports, etc.
- Make others in the region aware of plant conservation groups needing assistance, input, etc.
- Promote the ANPC and its members' activities at regional events.



Victorian Region

The first meeting for the year was to be held on February 23-24 at the Healesville Sanctuary, but was cancelled due to lack of interest.

The next meeting is to be held in April in the Bendigo area. The contact person is:

Paul Foreman.

Phone: (054) 44 6676.

The general contact person for the group is:

John Arnott,
Horticulture Department,
Melbourne Zoo.
Phone: (03) 9285 9300.
Fax: (03) 9285 93700.

SENSW/ACT Regional Group Meeting

The first meeting for the year was on 9-10 March at the Eurobodalla Native Botanic Gardens. Between them, the coordinator, John Wilkes, and the meeting organiser, John Knight, arranged a very full weekend.

This included a tour of the Gardens, a lunch put on by the Friends of Eurobodalla Native Botanic Gardens, a meeting with guest speakers including a forester, a developer, the coordinator of the local dunecare group, a director of planning, and a catchment planner. On the Sunday there were field trips to areas discussed at the meeting.

See the insert for a full report.

Next Meeting

The next meeting is to be in Wagga Wagga on May 18-19.

On the first day there will be a meeting, with groups from the South West Slopes and Riverina areas, to discuss the role of the ANPC and any issues relevant to the region. On the second day there will be field trips.

The contact person for the meeting is Roger Good, NSW NPWS: (06) 298 9718.

Group Coordinator: John Wilkes.

Phone and fax (06) 238 2490.

Sydney Region

Report of the meeting on
9/12/95
Maria Matthes

The Sydney Region group was fortunate enough to have the December meeting at the Minnamurra Rainforest in Budgeroo National Park on the 9th December (nice spot and warmish kinda day for a networking Christmas party). Minnamurra Rainforest is the winner of several ecotourism awards for bringing the bush to the community. It was great to see both familiar faces and some new ones.

An update of the proposed local government seminar was provided by Ian Cox. With the seminar aimed at engineers, town planners, and total catchment management representatives etc, the organising committee discussed whether such topics as threatened species, habitat management for conservation (including fire), threatening processes, biological and ecological processes, population genetics, legislation and planning policies, could be included in the seminar.

Members of the Sydney group made several useful recommendations to help the organising committee with their preparation for the seminar. These included the following: sponsorship should be sought from various organisations; assistance could be available from the Nature Conservation Council (who have considerable experience in organising conservation seminars); a venue may be available from botanic gardens, a uni or, if it turns into a big event, perhaps

incorporated in the ANPC conference; contact the Local Government Association for support; and Jeanette Mill suggested the ANPC may be able to assist with a publication of the seminar proceedings.

Maria Matthes provided a short talk on the history of the rainforest in the Illawarra area and the issues surrounding its protection and management. In 1983, a geographer estimated that the remaining coastal plain vegetation below 100 m was less than 8%. There is less now, and when this is divided amongst each vegetation type, very little of each remains.

At Minnamurra Rainforest there are two types of rainforest (warm temperate and subtropical), which differ from the dry rainforest closer to the coast. The dry rainforest type is unconserved south of the Hunter River, where we visited it at Kooragang Island.

The nationally threatened plant, *Irenepharsus tryphersus*, was recorded in the 1940s at Minnamurra Falls. It hadn't been seen anywhere in the wild since 1959, until local botanists Anders Bofeldt and Mark Robinson discovered it at two new locations nearby. It is likely that this species is now extinct (at least above ground) at Minnamurra Rainforest because of the total catchment weed problems. Mistflower (*Ageratina riparia*) has overtaken the creek and the riverbanks to the demise of many native species, including *Irenepharsus tryphersus* whose main recorded habitat preference is along the creeks.

After lunch the group went for a walk along the boardwalk through the rainforest. The boardwalk has minimised the impact of visitor use by not

only getting them off the ground (reducing any compaction), but directing their movements (reducing the number of tracks).

Anders Bofeldt provided an exceptionally informative and interesting walk for us, with details of plant names, behaviour, relations and uses. We saw some great fungi and tree orchids, along with loads of ferns.

Despite the beauty of the day, the walk was marred by evidence of the human impact. Some say parks are for people but I have to wonder when a beautiful large rock covered in moss has numerous initials carved in it, and a small tree is axed down by students on their school breakup party. Perhaps this highlights the need for teachers and students to be taught to appreciate their surrounding environment, so that others may also.

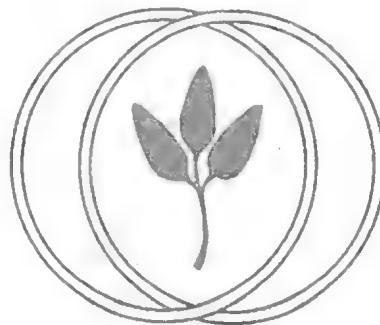
Our next visit is to Taronga Zoo where Sean Lillis is going to show us the restoration works they are doing at the Zoo. Should be a good day for all: stay tuned for the next update.

Report of the Sydney Region February Meeting, Taronga Zoo 10/2/96
Jennifer Brown,
Taronga Zoo Botanic Estate

The venue of Taronga Zoo saw the largest attendance so far of 40 people. Proceedings began with a welcome by Botanic Estate and Technical Services Manager, John Gibbons, who commented on how wonderful it was to see so many people gathered to view Taronga's plants! He then gave an informative talk about zoo horticulture.

The 20 horticultural staff are divided between exhibit landscaping, ground maintenance, regeneration of the foreshore bushland as well as eucalypt/browse collection for animals. Newer exhibits are designed to simulate an animal's habitat and therefore employ features such as waterfalls, ponds, mud wallows, ground covers, shrubs and trees to do this. Encouraging natural behaviour in animals does at time cause headaches for the horticultural staff. For example, plants can suffer urine burns, may be trampled during the breeding season or constantly grazed. However, these exhibits allow scope not just to emphasise the disappearing animals but also the interaction that animals have with endangered or rare plants from that disappearing community.

With Taronga Zoo catering for over 1 million visitors a year, there exists an excellent opportunity to create a greater awareness of rare or threatened Australian plants of the Sydney region. Interpretative graphics could be used to in-



form visitors of the status and associations of these plant species. Taronga sees the ANPC as having an important role in this process.

General business for the ANPC then followed, which included nominating venues for future meetings. With business concluded the group initiated networking over a BBQ lunch within the Botanic Estate nursery.

Afterwards the group was firstly taken on a tour of the Australian animal exhibits, highlighting the native orchids in this section. Then secondly, outside the grounds to see the foreshore bushland regeneration. The tours provided more opportunities for some networking and gave an interesting perspective on horticulture at Taronga Zoo.

Sydney Region Next Meeting

The next meeting for the Sydney region will be at Mount Tomah on Saturday the 11th of May.

The Wild Plant Rescue Service and the Blue Mountains Rare and Endangered species group will be talking to us about what they're up to.

For more information, contact the **Coordinator, Tracey Armstrong**,

Mt Annan Botanic Gardens,
Mt Annan.
Phone: (046) 48 2477;
Fax: (046) 48 2465;
Email: tracey@rbgsyd.gov.au.

Sub Tropical Region

Report on the
Planning Meeting, Mt
Coot-tha Botanic Gardens,
10/2/96

By Deborah Edwards

Thirteen people attended the meeting held on a day cooler than any of the previous week or so: we turned off the air conditioner and opened the doors. Prior to the meeting we had a share lunch and met or were re-acquainted and chatted, so the atmosphere was fairly relaxed by 1pm.

The meeting was run by Jeanette Mill, the National Coordinator of the ANPC, who began by having us all introduce ourselves and explain where we were from. Jeanette asked Phil Cameron from the Mt Coot-tha Botanic Gardens to thank the Curator, Ross McKinnon, for the use of the room now and in future.

A guest from New Zealand's Department of Conservation, John Sawyer, gave a short talk on the Wellington Plant Conservation Network which he runs. He said he had based it on the ANPC, and it looked at plant conservation strategy in the Wellington region. All interested people eg botanists, growers, community conservationists, could be involved. It covers growing, protection, management, identification, research, monitoring and translocation. There is a plant database and a regional "red" list. Currently they meet once a year, and the work is shared between the members.

Jeanette explained the re-

cent changes at the National Office, with Mark Richardson, the first National Coordinator, having gone to Alice Springs, and herself taking over that role. She also explained that the background to these meetings is that at the 1993 ANPC Conference in Tasmania, the participants resolved that there would be regional and local networking mechanisms to link members between conferences. There are some existing groups in areas of higher membership numbers, and more are coming. There were more resolutions from the Perth meeting in 1995, and these were published in the *Danthonia* of December 1995.

Nita Lester, Director of the Myall Park Botanic Gardens, asked what the boundaries of this region were. Jeanette explained that roughly it's SEQ and northern NSW, where there is a high concentration of members, threatened plants and threats. The southernmost limit is at about Coffs Harbour. However, regional boundaries are flexible, depending on activities.

Jeanette asked the group to send in any information on courses, conferences, etc, which they thought would be of interest to other members. This can be sent to her, or preferably to Deborah as editor of *Danthonia*. She encouraged the group to borrow the ANPC poster (which was on display) for conferences, stalls, etc. The National Office can lend it, or make a duplicate.

Jeanette then read a list of possible activities eg elect a coordinator, host/organise meetings, write meeting reports, promote ANPC and members' activities at any regional events. (See p. 17, this issue).

Klaus Querengasser said that he is happy to be the co-ordinator, with help if he needs it particularly for contacts for seminars.

The next conference is to be held in the latter half of 1997 in this region. Jeanette asked for any ideas for venues or themes to be given to her later. Bruce Tinworth of the Bremer Institute of TAFE suggested their auditorium. Nita Lester suggested Myall Park.

A tentative program was planned for the following 18 months, with the next planning meeting to coincide with the 1997 conference.

Tentative Program:

May 1996: session about the new part of the Qld Nature Conservation legislation which refers to collecting plants from the wild, and tagging plants sold. Possible location Tweed Heads. A trip to Fingal may happen on the same day, with a picnic and look around between sessions at dunecare activities, mangroves, etc. Nita Lester will find out more information on Fingal, and on Tweed Council facilities.

Late August 1996: Myall Park Botanic Gardens: a weekend.

November 1996: A talk from Julia Playford, of the new Centre for Conservation Biology, and perhaps others from her network. Venue possibly the Bremer Institute of TAFE auditorium, or the Uni. of Qld.

Feb 1997: Fingal, or Bribie Island (Wallum Action Group and SGAP Wallum Study Group).

May 1997: Rocky Creek Dam near Lismore to see the regeneration work being done by Ralph Woodford and team?

Invitations to meetings will go out at least 3 weeks ahead.

The meeting ended at about 3.45, and about 6 of the group walked around the rainforest section with Phil Cameron, looking at such rare species as *Syzygium moorei* (Durobby), *Agathis microstachya*, *Cassia marksiana*, *Hernandia bivalvis* and *Wodyetia bifurcata*. We left at 5pm with many thanks to Phil, and having had a good afternoon.

From conflict to conservation: Native Vegetation Management in Australia - a focus on the South Australian program and other Australian initiatives. Past present and future. Proceedings of Conference in Adelaide, 21-22 November 1995. Intended publication March 1996. Order from South Australian Dept of Environment and Natural Resources, GPO Box 1047, Adelaide SA 5001.

And More Books!

Conservation and management of protected plants in trade in Queensland 1995-1998. The State of Queensland. Department of Environment and Heritage.

Remnant Bushland of South East Queensland in the 1990's: its distribution, loss, ecological consequences, and future prospects. Carla P Catterall and Mark Kingston. 1996. Brisbane: Institute of Applied Environmental Research, Griffith University and Brisbane City Council.

Surrey Beatty & Sons Book List 1995. Covers ecosystem reconstruction, research science, species reintroduction, etc. Available from Surrey Beatty & Sons P/L, 43 Rickard Rd, Chipping Norton NSW 2170 Australia. Phone (02) 602 3888, FaxStream (02) 821 1253.

Guidelines for the management of native vegetation in South Australia - books 1 & 2. 1996. For order forms, send to: Elspeth Young, Native Vegetation Conservation Section, Dept of Environment and Natural Resources, GPO Box 1047, Adelaide SA 5001.

Data Sheets on Natural Resource Issues. Occasional Paper No 06/95. 1995. Canberra: Land and Water Resources Research and Development Corporation. It has a section, Vegetation, which includes "Rehabilitation, Management and Conservation of Remnant Vegetation".

Is there a road industry responsibility for biological diversity? Quentin Farmar-Bowers. 1995. Vermont South, Victoria: Australian Road Research Board.

The Evans Street native grassland, Sunbury: management plan. James Ross, illustrated by Sarah Martinelli. 1995. Victorian National Parks Association (Save the Bush project).

National Threatened Species Network Changes

The new Northern Territory Coordinator of the National Threatened Species Network, Prue Adamson, is based in Alice Springs. The address is:

The National Threatened Species Network, Gregory Terrace, PO Box 2796 Alice Springs NT 0871. Phone: (089) 521541.

Maria vanderGragt, who was NT Coordinator, moves to Brisbane to take over from Jan Tilden as Queensland Coordinator. The new Qld address will be:

The National Threatened Species Network, PO Box 12046, Elizabeth St, Brisbane Qld 4002.

Electronic Addresses

Australian National Botanic Gardens

The home page address is:
<http://www.anbg.gov.au/anbg/>

The Society for Growing Australian Plants (SGAP) NSW

This group has a home page on the World Wide Web. It is
<http://www.ozemail.com.au/~sgap>

Royal Botanic Gardens, Sydney

The home page for the Gardens is
<http://www.rbgsyd.gov.au>

Streamline Database

This is jointly sponsored by the Land and Water Resources Research and Development Corporation (LWRRDC) and the Urban Water Association of Australia. It has details of LWRRDC projects, and the broader published literature, including that on irrigation. Access to the database is available directly on-line via the Oz-line network, CD-ROM and hard copy. For further information, contact:

Pam Handyside,
Streamline Manager,
GPO Box 155,
Canberra, ACT 2601.
Phone: (06) 236 6267.
Fax: (06) 236 6440.
Email:
infoscan@acslink.net.au

Community Biodiversity Network

The Network has a World Wide Web home page found at <http://www.pegapc.org/~bdnet>. It contains much useful information which includes their Biodiversity Bulletin, a register of coming events, contacts and links to other Australian and international Web sites. They also give advice on how to get connected.

Biological Conservation Newsletter

This is published by the Department of Botany at the Museum of Natural History, Smithsonian Institution. The editor is Jane Villa-Lobos (mnhbo019@sivm.si.edu). It is electronically published on CONSLINK, a service of the Conservation & Research Center, Smithsonian Institution, Front Royal, VA 22630, USA [Editor: Michael Stuewe (nzpem001@sivm.si.edu)].

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Note: The cumulative Conservation Bibliography from this newsletter, containing over 8000 references, is on the Smithsonian Institution's Natural History Gopher Server. It can be found at the address nmnhgoph.si.edu port 70. You can look it up under Botany/Biological Conservation/Conservation Bibliography. If you have a World Wide Web Client, you can reach this material on the Gopher Server from our department's World Wide Web Home Page.

The URL is:

<http://nmnhwww.si.edu/departments/botany.html>.

International Arid Lands Consortium

The International Arid Lands Consortium is based at the Office of Arid Lands Studies, University of Arizona. Its Online Newsletter resides at the IALC World Wide Web Home Page.

The URL is:

<http://ag.arizona.edu/OALS/IALC/Home.html>.

The Australian Network For Plant Conservation Membership List

The date (1995/6) indicates that the member has joined or renewed for that year. Addresses and names of contact persons are available from the National Office.

Corporate Members

ACT Parks & Conservation Service, (1995)
Adelaide Botanic Gardens (1996)
Albury Bot Gardens, NSW (1995)
Alcoa of Australia Ltd (1996)
Australian Army (1995)
Aust Tree Seed Centre, CSIRO (1995)
Australian National Botanic Gardens (1996)
Aust. Nature Conservation Agency (1996)
Barcaldine Shire Council, Qld (1995)
Brisbane Botanic Gardens (1996)
Centre for Plant Biodiversity Research, ACT (1995)
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Forestry Tasmania (1995)
George Caley Botanic Garden, NSW (1995)
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Logan City Council, Qld (1996)
Minerals Council of Aust (1996)
Norfolk Island Bot Garden (1996)
North Forest Products, Tas (1996)
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Pacific Power, NSW (1995)
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Parks Wildlife and Heritage, Tas (1995)
Queensland Herbarium (1996)
Randwick City Council, NSW (1995)

RGC Mineral Sands, WA (1995)
Royal Botanic Gardens, Melbourne, Vic (1995)
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Wollongong Bot Gardens (1996)
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International Associates

Bot Gardens Conservation Intl, UK
Botanical Research Inst of Texas
Canadian Botanical Conservation Network
Center for Plant Conservation, USA
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Kebun Raya Indonesia
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PlantNet, UK
Rare Plant Consortium, Canada
Society for Ecol Restoration, USA
Suva Botanical Gardens, Fiji
Vailima Bot Gardens, Wstn Samoa
Wellington Plant Conservation Network, NZ

Other Organisations

Assn. of Soc. for Growing Aust Plants (1995)
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Rainforest Seed Collective, (1996)
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Royal Geographical Society of Qld (1996)
SGAP Blue Mtns Group, (1995)
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SGAP Dryandra Study Group (1996)
SGAP East Hills Group, NSW (1995)
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SGAP Grevillea Study Group (1995)
SGAP Hobart District Group (1996)
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SGAP Maroondah Inc, Vic (1995)
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SGAP North Shore, NSW (1996)
SGAP North West, Tas (1996)
SGAP Queensland Region (1996)
SGAP Queensland Region Southside (1995)
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SGAP - Tasmania Region (1994)
Stony Range Flora Reserve, NSW (1995)
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Trust for Nature (Victoria) (1996)
Wallum Action Group, Qld (1995)
Wildflower Society of WA (1995)
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Wildflower Society of WA, Nthn Suburbs (1996)
World Wide Fund for Nature Australia (1996)

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